

Source Water Assessment Report



Public Water Supply: GARDEN CITY, CITY OF

**Assessment Areas Include:
646, 647, 648, 649, 650**



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Reports were generated with the Automated Source Water Assessment Tool (ASWAT). Assessments were completed online using ASWAT by hundreds of state employees, public water supply staff, and technical assistant providers throughout the State of Kansas.

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Report Description

Detailed Explanation of Entire Report:

The 1996 amendments to the Safe Drinking Water Act require each state to develop a Source Water Assessment Program (SWAP) and a Source Water Assessment (SWA) for each Public Water Supply (PWS) that treats and distributes raw source water. In Kansas there are 761 public water supplies that require SWAs. A SWA includes a delineation of the source water assessment area, an inventory of potential contaminant sources, and a susceptibility analysis.

A PWS can consist of one or more individual assessment areas that require different assessments. In general, an assessment area is delineated at a two-mile fixed radius for a groundwater well. A surface water intake assessment area is the upstream-drainage area (watershed), inside the state border. Additionally, an assessment area can consist of an individual well, group of wells, an individual surface water intake, or multiple surface water intakes.

After each assessment is completed a report is automatically generated using an Internet-based application called the Automated Source Water Assessment Tool (ASWAT). The individual assessment reports combine to form the entire SWA report for a PWS.

A map of each Assessment Area was also generated with ASWAT. However, for security reasons the maps are not included in this report. To obtain a copy of the map(s), please contact your local PWS.

All PWS reports will be available for viewing and downloading on KDHE's Watershed Management Section website(<http://www.kdhe.state.ks.us/nps>) in 2004.

GARDEN CITY, CITY OF Summary:

AA	Type	Diversion Id
646	Ground water multiple wells	013, 018, 017, 012, 015, 016, 009
647	Ground water multiple wells	026, 010
648	Ground water multiple wells	105, 101, 106, 102, 103, 104
649	Ground water single well	027
650	Ground water single well	007

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **646**
Diversion Id's: **013, 018, 017, 012, 015, 016, 009**
Status: **Accepted**
Submit Date: **2003-01-29 09:29:07**

Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **646**

Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score – SLS	38	49	37	56	42	59
SLS Range	Low	Low	Low	Mid	Low	Mid

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Susceptibility Likelihood Range

SLS Range	
0–50	Low Susceptibility
51–80	Moderate Susceptibility
81–100	High Susceptibility

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **646**
Diversion Id's: **013, 018, 017, 012, 015, 016, 009**
Status: **Accepted**
Submit Date: **2003-01-29 09:29:07**

Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **646**

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
216128	General Farm, Primarily Crop	191	B
216630	General Farm, Primarily Crop	191	B
216540	Animal Specialty Services	752	B
216682	Oil and Gas Field services	1389	B
216010	Single-family Housing Construction	1521	B
216373	Single-family Housing Construction	1521	B
216768	Single-family Housing Construction	1521	B
216734	Highway and Street Construction	1611	B
216556	Meat Packing Plant Manufacturing	2011	B
216299	Prefabricated Wood Buildings Manufacturing	2452	B
216348	Newspapers Publishing and Printing	2711	B
216137	Commercial Printing NEC	2759	B
216530	Commercial Printing NEC	2759	B
216738	Metal Coating and Allied Services Manufacturing	3479	B
216311	Refrigeration and Heating Equipment Manufacturing	3585	B

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
216586	Machinery, Except Electrical Manufacturing	3599	B
216746	Machinery, Except Electrical Manufacturing	3599	B
216177	Signs and Advertising Display Manufacturing	3993	B
216631	Local Trucking, without Storage	4212	B
216740	Farm Product Warehousing and Storage	4221	B
216570	Recreational vehicle sales and repair	5012	B
216109	Farm and Garden Machinery	5083	B
216747	Farm and Garden Machinery	5083	B
216386	Gasoline Service Station	5541	B
216387	Gasoline Service Station	5541	B
216572	Gasoline Service Station	5541	B
216044	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	B
216283	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	B
216545	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	B
216733	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	B
216770	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	B

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
216216	Auto Truck Repair Service	7538	B
216267	Auto Truck Repair Service	7538	B
216469	Auto Truck Repair Service	7538	B
216641	Auto Truck Repair Service	7538	B
216785	Auto Truck Repair Service	7538	B
216795	Auto Truck Repair Service	7538	B
216020	Repair Services, Nec	7699	B
216140	Repair Services, Nec	7699	B
216741	Repair Services, Nec	7699	B
215458	General Farm, Primarily Crop	191	C
215459	Cattle Farm	211	C
215460	Cattle Farm	211	C
215462	Cattle Farm	211	C
215578	Cattle Farm	211	C
215922	Cattle Farm	211	C
216963	Cattle Farm	211	C
216965	Cattle Farm	211	C
215463	Veterinary Services, Specialties	742	C
215958	Veterinary Services, Specialties	742	C
215959	Veterinary Services, Specialties	742	C
216775	Veterinary Services, Specialties	742	C
216776	Veterinary Services, Specialties	742	C
215999	Animal Specialty Services	752	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
216713	Animal Specialty Services	752	C
217035	Animal Specialty Services	752	C
215472	Oil and Gas Field services	1389	C
215474	Oil and Gas Field services	1389	C
215670	Oil and Gas Field services	1389	C
215818	Oil and Gas Field services	1389	C
216864	Oil and Gas Field services	1389	C
216877	Oil and Gas Field services	1389	C
216878	Oil and Gas Field services	1389	C
215450	Single-family Housing Construction	1521	C
215475	Single-family Housing Construction	1521	C
215476	Single-family Housing Construction	1521	C
215579	Single-family Housing Construction	1521	C
215672	Single-family Housing Construction	1521	C
215795	Single-family Housing Construction	1521	C
215824	Single-family Housing Construction	1521	C
215830	Single-family Housing Construction	1521	C
215888	Single-family Housing Construction	1521	C
216466	Single-family Housing Construction	1521	C
216652	Single-family Housing Construction	1521	C
216730	Single-family Housing Construction	1521	C
216799	Single-family Housing Construction	1521	C
216800	Single-family Housing Construction	1521	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
216803	Single-family Housing Construction	1521	C
216866	Single-family Housing Construction	1521	C
216885	Single-family Housing Construction	1521	C
216944	Single-family Housing Construction	1521	C
217032	Single-family Housing Construction	1521	C
217070	Single-family Housing Construction	1521	C
215455	Nonresidential Construction	1542	C
215571	Nonresidential Construction	1542	C
215710	Nonresidential Construction	1542	C
215772	Nonresidential Construction	1542	C
215785	Nonresidential Construction	1542	C
216872	Nonresidential Construction	1542	C
215483	Meat Packing Plant Manufacturing	2011	C
215655	Dog, Cat, and Other Pet Food Manufacturing	2047	C
217071	Corrugated and Solid Fiber Boxes	2653	C
215935	Commercial Printing-Lithographic	2752	C
215484	Commercial Printing NEC	2759	C
216512	Commercial Printing NEC	2759	C
216847	Fertilizers, Mixing Manufacturing	2875	C
215640	Plastics products Manufacturing	3089	C
215485	Ready-mix Concrete Plant	3273	C
215605	Fabricated Plate Work (boiler shops) Manufacturing	3443	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
215600	Farm Machinery and Equipment	3523	C
215616	Farm Machinery and Equipment	3523	C
216875	Farm Machinery and Equipment	3523	C
215585	Pumps and Pumping Equipment Manufacturing	3561	C
215658	Machinery, Except Electrical Manufacturing	3599	C
216786	Machinery, Except Electrical Manufacturing	3599	C
216478	Signs and Advertising Display Manufacturing	3993	C
215486	Local Trucking, without Storage	4212	C
215734	Local Trucking, without Storage	4212	C
215820	Local Trucking, without Storage	4212	C
215488	Farm Product Warehousing and Storage	4221	C
215489	Farm Product Warehousing and Storage	4221	C
215953	Farm Product Warehousing and Storage	4221	C
216933	Farm Product Warehousing and Storage	4221	C
217012	Pipeline Terminal	4789	C
215495	Refuse Systems	4953	C
216794	Refuse Systems	4953	C
215718	Construction and Mining Machinery	5082	C
215498	Farm and Garden Machinery	5083	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
215499	Farm and Garden Machinery	5083	C
215589	Farm and Garden Machinery	5083	C
215595	Farm and Garden Machinery	5083	C
215601	Farm and Garden Machinery	5083	C
215619	Farm and Garden Machinery	5083	C
215665	Farm and Garden Machinery	5083	C
216858	Farm and Garden Machinery	5083	C
216935	Farm and Garden Machinery	5083	C
215979	Scrap and Waste Materials	5093	C
216158	Gasoline Service Station	5541	C
216436	Gasoline Service Station	5541	C
216771	Gasoline Service Station	5541	C
215511	Recreational vehicle sales and repair	5561	C
215614	Mobile Home Park	6515	C
215657	Mobile Home Park	6515	C
215976	Mobile Home Park	6515	C
216940	Mobile Home Park	6515	C
217043	Recreational Vehicle Parks and Campsites	7033	C
216817	Photofinishing Laboratory	7384	C
215537	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
215592	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
215668	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
215683	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
215684	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
215691	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
216859	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
216993	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
215538	Auto Truck Repair Service	7538	C
215540	Auto Truck Repair Service	7538	C
215593	Auto Truck Repair Service	7538	C
215676	Auto Truck Repair Service	7538	C
215693	Auto Truck Repair Service	7538	C
215780	Auto Truck Repair Service	7538	C
216783	Auto Truck Repair Service	7538	C
216790	Auto Truck Repair Service	7538	C
216797	Auto Truck Repair Service	7538	C
216861	Auto Truck Repair Service	7538	C
216862	Auto Truck Repair Service	7538	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
216896	Auto Truck Repair Service	7538	C
216994	Auto Truck Repair Service	7538	C
215542	Car Wash	7542	C
215644	Car Wash	7542	C
215666	Car Wash	7542	C
216464	Car Wash	7542	C
216605	Car Wash	7542	C
215545	Repair Services, Nec	7699	C
215569	Repair Services, Nec	7699	C
215597	Repair Services, Nec	7699	C
215719	Repair Services, Nec	7699	C
216898	Repair Services, Nec	7699	C
216988	Repair Services, Nec	7699	C
215548	Golf Course	7992	C
217019	Golf Course	7992	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3000191	Pete's Standard Service	02211	B
3000263	Appelhans Oil	03173	B
3000358	Masonry Products	04410	B
3000532	St Catherine Hospital	06259	B
3000712	Presta Oil	07033	B
3000863	Sw Bell Telephone	08814	B
3000952	Wheat Lands Country Store	11567	B
3001073	Hort's Tire Service	15560	B
3002090	Texaco, Lee's	28538	B
3000189	Eazy Stop	02193	C
3000190	5 Points Auto Parts	02207	C
3000591	Robinson Oil	06495	C
3000641	Taylor Food Mart #632	06719	C
3000658	Country Corner	06777	C
3000664	Garden City Apco, Formerly Jims	06796	C
3000715	Dart In, Garden City	07041	C
3000976	Burtis Motors	12327	C
3001586	Southwest Carpet, Inc.	26035	C
3001671	Kwik Shop #701	26409	C
3001714	Garden City Coop, Bulk Plant	26615	C
3001761	Kdot, Garden City	26739	C

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3001820	Ups, Garden City	27055	C
3001844	Coastal Mart #9748	27146	C
3002231	Koa, Garden City	29248	C
3002300	Dv Douglass Roofing	29581	C
3002301	Kustom Auto Radio	29583	C
3002404	Garden City Coop, Bulk Plant	40184	C

Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000028	GARDEN CITY PWS #18 (COMBINED W/028-71124)	C102803003	B
7000029	STROH CLEANERS	C102870019	C
7000033	HOLCOMB USDA/CCC SITE	C102870525	C

Regulated Solid Waste Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
5000516	Smith Sand Co.	0500-S	B
5000370	Parks Construction Co.	0363-S	C
5000391	Smith Sand Co.	0382-S	C

Regulated Solid Waste Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
5000501	City of Garden City	0486-S	C
5000523	City of Garden City	0508-S	C
5000703	Southwest Medecol, Msc	0682-S	C
5000778	Ashton Group Inc.	0753-S	C
5000835	Stericycle, Inc.	0806-S	C

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6000919	SUNFLOWER ELECTRIC POWER – GARDEN CITY	I-UA14-PO02	C
6001839	GARDEN CITY MWTP	M-UA14-OO01	C
6001840	GARDEN CITY MWTP	M-UA14-OO01	C
6001842	GARDEN CITY MWTP	M-UA14-OO01	C
6001843	GARDEN CITY MWTP	M-UA14-OO01	C
6001844	GARDEN CITY MWTP	M-UA14-OO01	C
6001845	GARDEN CITY MWTP	M-UA14-OO01	C

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **646**
Diversion Id's: **013, 018, 017, 012, 015, 016, 009**
Status: **Accepted**
Submit Date: **2003-01-29 09:29:07**

Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **646**

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000207		0	B

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **646**
Diversion Id's: **013, 018, 017, 012, 015, 016, 009**
Status: **Accepted**
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Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **646**

Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
51	15	132	39	78	49

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

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Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A – Microbiological **B** – Inorganic Compounds **B1** – Eutrophication – Phosphorous
B2 – Sedimentation **B*** – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

Potential Contaminants Listing

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **646**

Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7538	Auto Truck Repair Service	Inorganics, VOCs	B
"	"	"	D
7542	Car Wash	Inorganics, VOCs	B
"	"	"	B1
"	"	"	B2
"	"	"	D
211	Cattle Farm	Sanitary, Fertilizers TSS, pesticides, Erosion and sedimentation	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
5082	Construction and Mining Machinery	NA	NA
2047	Dog, Cat, and Other Pet Food Manufacturing	BOD, oil and grease, TSS	A
"	"	"	B
3443	Fabricated Plate Work (boiler shops) Manufacturing	inorganics	B
"	"	"	D

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
2875	Fertilizers, Mixing Manufacturing	Nitrogen, phosphorous	B
"	"	"	B*
5541	Gasoline Service Station	Inorganics, VOCs	B
"	"	"	D
7992	Golf Course	Fertilizers and pesticides	A
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
1611	Highway and Street Construction	Sedimentation	B2
4212	Local Trucking, without Storage	VOCs	D
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	B
"	"	"	D
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	A
"	"	"	B*
3479	Metal Coating and Allied Services Manufacturing	inorganics, VOCs	B
"	"	"	D
6515	Mobile Home Park	Sanitary wastes, Fertilizers	A
"	"	"	B

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
6515	Mobile Home Park	Sanitary wastes, Fertilizers	B1
"	"	"	B*
1542	Nonresidential Construction	Sedimentation	B2
1389	Oil and Gas Field services	Oil, Salt Water	B
"	"	"	C
7384	Photofinishing Laboratory	NA	B
"	"	"	D
4789	Pipeline Terminal	Inorganics, VOCs	B
"	"	"	D
3089	Plastics products Manufacturing	inorganics, VOCs	B
"	"	"	D
2452	Prefabricated Wood Buildings Manufacturing	TSS	B
"	"	"	D
3561	Pumps and Pumping Equipment Manufacturing	inorganics, VOCs	B
"	"	"	D
3273	Ready-mix Concrete Plant	Minerals and TSS	B
7033	Recreational Vehicle Parks and Campsites	sanitary, fertilizers, pesticides	A
"	"	"	B
"	"	"	B1

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7033	Recreational Vehicle Parks and Campsites	sanitary, fertilizers, pesticides	B*
"	"	"	C*
3585	Refrigeration and Heating Equipment Manufacturing	inorganics, VOCs	B
"	"	"	D
5093	Scrap and Waste Materials	Metals, TSS	B
3993	Signs and Advertising Display Manufacturing	inorganics, VOCs	B
"	"	"	D
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	A
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	B
"	"	"	D
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	A
"	"	"	B
752	Animal Specialty Services	Sanitary, fertilizers	A
"	"	"	B
"	"	"	B1

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
752	Animal Specialty Services	Sanitary, fertilizers	B2
"	"	"	B*
2759	Commercial Printing NEC	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
2752	Commercial Printing–Lithographic	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
2653	Corrugated and Solid Fiber Boxes	Inorganics, VOCs	B
"	"	"	D
3523	Farm Machinery and Equipment	inorganics	B
"	"	"	D
4221	Farm Product Warehousing and Storage	TSS, VOCs	B
"	"	"	D
5083	Farm and Garden Machinery	inorganics	B
191	General Farm, Primarily Crop	fertilizers, Pesticides	B
"	"	"	B1
"	"	"	B2
"	"	"	B*

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
191	General Farm, Primarily Crop	fertilizers, Pesticides	C*
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
5012	Recreational vehicle sales and repair	Inorganics	B
5561	Recreational vehicle sales and repair	Inorganics	B
4953	Refuse Systems	ALL	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C
"	"	"	C*
"	"	"	D
7699	Repair Services, Nec	inorganics	B

Public Water Supply: **GARDEN CITY, CITY OF**
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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

Public Water Supply: **GARDEN CITY, CITY OF**
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Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
7542	Car Wash	Inorganics, VOCs	Install and maintain sediment and grease traps where appropriate	40 CFR 442
211	Cattle Farm	Sanitary, Fertilizers TSS, pesticides, Erosion and sedimentation	Proper application of fertilizers and pesticides. Proper cleaning of equipment and disposal of chemicals. Maintain riparian areas along waterways and keep cattle out of these areas. Proper Waste Management and Grazing Management.	KDHE–Livestock Waste Management Section, KAR 28–16, KDA, County Soil Conservation District, NRCS
5082	Construction and Mining Machinery	NA	Discharge to POTW	NA
2047	Dog, Cat, and Other Pet Food Manufacturing	BOD, oil and grease, TSS	Wastewater pretreatment and/or discharge to a POTW	40 CFR 122 and State or federal Storm water pollution prevention regulations
3443	Fabricated Plate Work (boiler shops) Manufacturing	inorganics	Minimize outdoor storage and control storm water runoff. Pre-treat process wastewater prior to discharge to POTW	40 CFR 464 and State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
2875	Fertilizers, Mixing Manufacturing	Nitrogen, phosphorous	Minimize contact of product with water. Contain and treat process wastewater Protect product from contact with water.	40 CFR 418 and State or federal Storm water pollution prevention regulations
5541	Gasoline Service Station	Inorganics, VOCs	Maintain area to minimize fuel contamination	NA
7992	Golf Course	Fertilizers and pesticides	Proper application of fertilizers and pesticides. Proper cleaning of equipment and disposal of chemicals.	KDHE, KAR 28-16
1611	Highway and Street Construction	Sedimentation	Erosion and Sediment Control	KAR 28-16, KDHE
4212	Local Trucking, without Storage	VOCs	Discharge to a POTW	State or federal Storm water pollution prevention regulations
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	Wastewater pretreatment and/or discharge to a POTW	40CFR 432 and State or federal Storm water pollution prevention regulations
3479	Metal Coating and Allied Services Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	40 CFR 433 and State or federal Storm water pollution prevention regulations
6515	Mobile Home Park	Sanitary wastes, Fertilizers	Discharge to POTW. Minimize use of lawn chemicals	KAR 28–5
1542	Nonresidential Construction	Sedimentation	Erosion and Sediment Control	KAR 28–16, KDHE
1389	Oil and Gas Field services	Oil, Salt Water	Proper management of production wastes	KAR 28–41, 45, 40 CFR 435
7384	Photofinishing Laboratory	NA	Discharge to POTW. Recycle chemicals	CFR 40 459

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
4789	Pipeline Terminal	Inorganics, VOCs	Maintain secondary containment for fuel storage and fueling areas. Maintain and inspect. Effect repairs promptly	NA
3089	Plastics products Manufacturing	inorganics, VOCs	Pre-treat wastewater prior to discharge. Minimize outdoor storage and control storm water runoff.	40 CFR 463 and State or federal Storm water pollution prevention regulations
2452	Prefabricated Wood Buildings Manufacturing	TSS	Discharge of process waters to POTW. Minimize outdoor storage.	State or federal Storm water pollution prevention regulations
3561	Pumps and Pumping Equipment Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
3273	Ready-mix Concrete Plant	Minerals and TSS	Minimize outdoor storage and control storm water runoff.	State or federal Storm water pollution prevention regulations
7033	Recreational Vehicle Parks and Campsites	sanitary, fertilizers, pesticides	Discharge to POTW. Minimize use of lawn chemicals	NA

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
3585	Refrigeration and Heating Equipment Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
5093	Scrap and Waste Materials	Metals, TSS	Minimize contact with storm water	State or federal Storm water pollution prevention regulations
3993	Signs and Advertising Display Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	40 CFR 459 and State or federal Storm water pollution prevention regulations
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	Proper cleaning and disposal of household hazardous waste. Proper storage, application, and clean up of pesticides and fertilizers	KAR 28–48, KDHE, KDEM
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	Discharge to POTW. Recycle where appropriate. Properly maintain oil product and waste. Manage paint and solvent wastes properly	NA
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	Discharge to POT	NA

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
752	Animal Specialty Services	Sanitary, fertilizers	Collect and treat wastes.	NA
2759	Commercial Printing NEC	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
2752	Commercial Printing—Lithographic	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
2653	Corrugated and Solid Fiber Boxes	Inorganics, VOCs	Collect process wastewater and treat prior to discharge as necessary. Minimize outdoor storage	40 CFR 430 and State or federal Storm water pollution prevention regulations
3523	Farm Machinery and Equipment	inorganics	Discharge to POTW	State or federal Storm water pollution prevention regulations
4221	Farm Product Warehousing and Storage	TSS, VOCs	Keep the area clean of grain. Use grease traps.	State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
5083	Farm and Garden Machinery	inorganics	Discharge to POTW	NA
191	General Farm, Primarily Crop	fertilizers, Pesticides	Maintain good erosion control practices and minimize the use of chemicals	NA
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
5012	Recreational vehicle sales and repair	Inorganics	Discharge to a POTW. Store oils and lubricants properly	NA
5561	Recreational vehicle sales and repair	Inorganics	Discharge to a POTW. Store oils and lubricants properly	Discharge to a POTW. Store oils and lubricants properly
4953	Refuse Systems	ALL	Store wastes properly in order to minimize contact with storm water.	Maintain the lagoon or storage vessel properly. Control storm water run on and runoff to minimize contamination of storm water

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7699	Repair Services, Nec	inorganics	Discharge to POTW	NA

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Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

Public Water Supply: **GARDEN CITY, CITY OF**
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Ground Water Multiple Wells Analysis

A – Microbiological **B** – Inorganic Compounds
B* – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is any well under the influence of surface water?	No	0	0	0	0	0	0
2	Do all PWS wells meet KS PWS water well construction standards?	Yes	0	0	0	0	0	0
3	Is any well less than 30 feet deep?	No	0	0	0	0	0	0
4	Is gravel pack within 20 feet of any well surface?	No	0	0	0	0	0	0
5	Does a PWS own or control all the areas around the wells?	No	1	1	1	1	1	1
6	Does Zone B consist entirely of native grass?	No	2	2	2	2	2	2
7	Is there a contaminated well in Zone B?	No	0	0	0	0	0	0
8	Is a class V UIC well present?	No	0	0	0	0	0	0
9	Are any commercial, industrial, or urban areas present in Zone B?	Yes	1	1	1	1	1	1
10	Does each industrial/commercial site and urban area have a water quality protection plan in place?	No	1	1	1	1	1	1
11	Are any non-farm home sites present in Zone B?	No	0	0	0	0	0	0
12	Do all the non-farm home sites have a water quality protection plan?	Yes	0	0	0	0	0	0
13	Are any farmsteads present in Zone B?	No	0	0	0	0	0	0
14	Do all farmsteads have a water quality protection plan?	Yes	0	0	0	0	0	0
15	Is there grazing livestock in Zone B?	No	0	0	0	0	0	0
16	Have all livestock producers implemented water quality protection measures?	Yes	0	0	0	0	0	0
17	Is there livestock confinement in Zone B?	No	0	0	0	0	0	0

No.	Question	Response	A	B	B*	C	C*	D
18	Is each confined animal feeding operation registered with KDHE?	Yes	0	0	0	0	0	0
19	Is there corn or grain sorghum production in Zone B?	No	0	0	0	0	0	0
20	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
21	Are any orchards present in Zone B?	No	0	0	0	0	0	0
22	Are orchard nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
23	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	No	0	0	0	0	0	0
24	Is there a railroad or major highway in Zone B or C?	Yes	0	1	1	1	1	1
25	Is there oil production in Zone B or C?	Yes	0	1	0	1	0	1
26	Do coarse textured soils predominate Zones A, B and C?	Yes	1	1	1	1	1	1
27	Is an irrigation well located in Zone B or C?	Yes	0	1	1	1	1	1
28	Is a wastewater treatment facility in Zone B or C?	Yes	1	1	1	1	1	1
29	Is a solid waste landfill in Zone B or C?	Yes	1	1	1	1	1	1
30	Are there unplugged, abandoned water wells present in Zone C?	Yes	2	1	1	1	1	1
31	Are any commercial, industrial, or urban area present in Zone C?	Yes	1	1	1	1	1	1
32	Does each industrial/commercial site and urban area have a water quality protection plan in place?	No	1	1	1	1	1	1
33	Is there livestock confinement in Zone C?	No	0	0	0	0	0	0
34	Is each confined livestock facility registered with KDHE?	Yes	0	0	0	0	0	0
35	Do all the livestock producers have water quality protection measures in place?	Yes	0	0	0	0	0	0
36	Are cropland nutrient management plans in place?	No	0	0	1	0	0	0
37	Are cropland pesticide management plans in place?	No	0	0	0	0	1	0
38	Does a perennial stream flow into Zone C?	No	0	0	0	0	0	0
39	Are watershed water quality protection plans in place?	Yes	0	0	0	0	0	0

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Site Comments:

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **646**

Comments for Unregulated Sites

Potential Contaminant Site No.	Site Comments	Author
215718	Housing only at this site	David Glenn
215780	Houses only at this site	David Glenn
215888	Construction complete	David Glenn
216010	Construction complete	David Glenn
216299	Site is office space and retail stores	David Glenn
216373	Construction complete	David Glenn
216682	No oil or gas field services at this location; housing only	David Glenn
216682	No oil and gas field services at this location; houses only	David Glenn

Comments for Unregulated Sites

Potential Contaminant Site No.	Site Comments	Author
216682	No oil and gas field services at this location; houses only	David Glenn
216682	No oil and gas field services at this location; housing only	David Glenn

Comments for Regulated Confined Animal Feeding Operations Sites

Did Not Receive Any Comments

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

Comments for Regulated Identified Contaminated Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
STROH CLEANERS	7000029	Stroh cleaners does not exist at this location.	David Glenn

Comments for Regulated Solid Waste Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
Smith Sand Co.	5000516	Site is a retirement home and housing	David Glenn

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

Public Water Supply: **GARDEN CITY, CITY OF**
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Status: **Accepted**
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Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **646**

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Unknown	9000207	RV park is PWS the wellsite is this one I added. The well site that is on map as the PWS does not belong to him.	Scott Selee

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Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **646**

Comments for Analysis Questions

Analysis Question	Question Comments	Author
Does a PWS own or control all the areas around the wells?	PWS owns the property around the wells, but not 200' radius in some instances.	David Glenn
Is there a contaminated well in Zone B?	There have been detects of some contaminants, but not exceeding the MCL.	David Glenn
Does each industrial/commercial site and urban area have a water quality protection plan in place?	Unknown	David Glenn
Is an irrigation well located in Zone B or C?	Zone C only	David Glenn
Are there unplugged, abandoned water wells present in Zone C?	Unknown	David Glenn
Does each industrial/commercial site and urban area have a water quality protection plan in place?	Unknown	David Glenn
Are cropland nutrient management plans in place?	Unknown	David Glenn
Are cropland pesticide management plans in place?	Unknown	David Glenn

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Status: **Accepted**
Submit Date: **2003-01-29 09:36:25**

Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **647**

Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score – SLS	47	45	43	52	48	51
SLS Range	Low	Low	Low	Mid	Low	Low

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Susceptibility Likelihood Range

SLS Range	
0–50	Low Susceptibility
51–80	Moderate Susceptibility
81–100	High Susceptibility

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **647**
Diversion Id's: **026, 010**
Status: **Accepted**
Submit Date: **2003-01-29 09:36:25**

Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **647**

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
215888	Single-family Housing Construction	1521	B
215718	Construction and Mining Machinery	5082	B
215780	Auto Truck Repair Service	7538	B
215719	Repair Services, Nec	7699	B
215458	General Farm, Primarily Crop	191	C
216128	General Farm, Primarily Crop	191	C
216630	General Farm, Primarily Crop	191	C
215459	Cattle Farm	211	C
215460	Cattle Farm	211	C
215462	Cattle Farm	211	C
215578	Cattle Farm	211	C
215922	Cattle Farm	211	C
215463	Veterinary Services, Specialties	742	C
215958	Veterinary Services, Specialties	742	C
215959	Veterinary Services, Specialties	742	C
216775	Veterinary Services, Specialties	742	C
216776	Veterinary Services, Specialties	742	C
215999	Animal Specialty Services	752	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
216540	Animal Specialty Services	752	C
216713	Animal Specialty Services	752	C
217035	Animal Specialty Services	752	C
215472	Oil and Gas Field services	1389	C
215474	Oil and Gas Field services	1389	C
215670	Oil and Gas Field services	1389	C
215818	Oil and Gas Field services	1389	C
216682	Oil and Gas Field services	1389	C
216864	Oil and Gas Field services	1389	C
216877	Oil and Gas Field services	1389	C
216878	Oil and Gas Field services	1389	C
217110	Oil and Gas Field services	1389	C
215450	Single-family Housing Construction	1521	C
215475	Single-family Housing Construction	1521	C
215476	Single-family Housing Construction	1521	C
215579	Single-family Housing Construction	1521	C
215672	Single-family Housing Construction	1521	C
215795	Single-family Housing Construction	1521	C
215824	Single-family Housing Construction	1521	C
215830	Single-family Housing Construction	1521	C
216010	Single-family Housing Construction	1521	C
216373	Single-family Housing Construction	1521	C
216466	Single-family Housing Construction	1521	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
216652	Single-family Housing Construction	1521	C
216730	Single-family Housing Construction	1521	C
216768	Single-family Housing Construction	1521	C
216799	Single-family Housing Construction	1521	C
216800	Single-family Housing Construction	1521	C
216803	Single-family Housing Construction	1521	C
216866	Single-family Housing Construction	1521	C
216885	Single-family Housing Construction	1521	C
217032	Single-family Housing Construction	1521	C
215455	Nonresidential Construction	1542	C
215571	Nonresidential Construction	1542	C
215710	Nonresidential Construction	1542	C
215772	Nonresidential Construction	1542	C
215785	Nonresidential Construction	1542	C
216872	Nonresidential Construction	1542	C
216734	Highway and Street Construction	1611	C
215483	Meat Packing Plant Manufacturing	2011	C
216556	Meat Packing Plant Manufacturing	2011	C
215655	Dog, Cat, and Other Pet Food Manufacturing	2047	C
216299	Prefabricated Wood Buildings Manufacturing	2452	C
217071	Corrugated and Solid Fiber Boxes	2653	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
216348	Newspapers Publishing and Printing	2711	C
215935	Commercial Printing–Lithographic	2752	C
215484	Commercial Printing NEC	2759	C
216137	Commercial Printing NEC	2759	C
216512	Commercial Printing NEC	2759	C
216530	Commercial Printing NEC	2759	C
216835	Commercial Printing NEC	2759	C
216847	Fertilizers, Mixing Manufacturing	2875	C
215640	Plastics products Manufacturing	3089	C
215485	Ready–mix Concrete Plant	3273	C
216738	Metal Coating and Allied Services Manufacturing	3479	C
215616	Farm Machinery and Equipment	3523	C
216875	Farm Machinery and Equipment	3523	C
215585	Pumps and Pumping Equipment Manufacturing	3561	C
216311	Refrigeration and Heating Equipment Manufacturing	3585	C
215658	Machinery, Except Electrical Manufacturing	3599	C
216586	Machinery, Except Electrical Manufacturing	3599	C
216746	Machinery, Except Electrical Manufacturing	3599	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
216177	Signs and Advertising Display Manufacturing	3993	C
216478	Signs and Advertising Display Manufacturing	3993	C
215486	Local Trucking, without Storage	4212	C
215734	Local Trucking, without Storage	4212	C
215820	Local Trucking, without Storage	4212	C
216631	Local Trucking, without Storage	4212	C
215488	Farm Product Warehousing and Storage	4221	C
215489	Farm Product Warehousing and Storage	4221	C
215953	Farm Product Warehousing and Storage	4221	C
216740	Farm Product Warehousing and Storage	4221	C
215495	Refuse Systems	4953	C
216570	Recreational vehicle sales and repair	5012	C
215498	Farm and Garden Machinery	5083	C
215499	Farm and Garden Machinery	5083	C
215589	Farm and Garden Machinery	5083	C
215595	Farm and Garden Machinery	5083	C
215601	Farm and Garden Machinery	5083	C
215619	Farm and Garden Machinery	5083	C
215665	Farm and Garden Machinery	5083	C
216109	Farm and Garden Machinery	5083	C
216747	Farm and Garden Machinery	5083	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
216858	Farm and Garden Machinery	5083	C
215979	Scrap and Waste Materials	5093	C
216158	Gasoline Service Station	5541	C
216386	Gasoline Service Station	5541	C
216387	Gasoline Service Station	5541	C
216436	Gasoline Service Station	5541	C
216572	Gasoline Service Station	5541	C
216771	Gasoline Service Station	5541	C
215511	Recreational vehicle sales and repair	5561	C
215657	Mobile Home Park	6515	C
215976	Mobile Home Park	6515	C
216817	Photofinishing Laboratory	7384	C
215537	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
215592	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
215668	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
215683	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
215684	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
215691	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
216044	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
216283	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
216545	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
216733	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
216770	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
216859	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
215538	Auto Truck Repair Service	7538	C
215539	Auto Truck Repair Service	7538	C
215540	Auto Truck Repair Service	7538	C
215593	Auto Truck Repair Service	7538	C
215676	Auto Truck Repair Service	7538	C
215693	Auto Truck Repair Service	7538	C
216216	Auto Truck Repair Service	7538	C
216267	Auto Truck Repair Service	7538	C
216469	Auto Truck Repair Service	7538	C
216641	Auto Truck Repair Service	7538	C
216783	Auto Truck Repair Service	7538	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
216785	Auto Truck Repair Service	7538	C
216795	Auto Truck Repair Service	7538	C
216797	Auto Truck Repair Service	7538	C
216861	Auto Truck Repair Service	7538	C
216862	Auto Truck Repair Service	7538	C
216896	Auto Truck Repair Service	7538	C
215542	Car Wash	7542	C
215644	Car Wash	7542	C
215666	Car Wash	7542	C
216464	Car Wash	7542	C
216605	Car Wash	7542	C
215545	Repair Services, Nec	7699	C
215569	Repair Services, Nec	7699	C
215597	Repair Services, Nec	7699	C
216020	Repair Services, Nec	7699	C
216140	Repair Services, Nec	7699	C
216741	Repair Services, Nec	7699	C
216988	Repair Services, Nec	7699	C
215548	Golf Course	7992	C
217019	Golf Course	7992	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3000189	Eazy Stop	02193	C
3000190	5 Points Auto Parts	02207	C
3000191	Pete's Standard Service	02211	C
3000263	Appelhans Oil	03173	C
3000358	Masonry Products	04410	C
3000532	St Catherine Hospital	06259	C
3000591	Robinson Oil	06495	C
3000641	Taylor Food Mart #632	06719	C
3000658	Country Corner	06777	C
3000664	Garden City Apco, Formerly Jims	06796	C
3000712	Presta Oil	07033	C
3000715	Dart In, Garden City	07041	C
3000863	Sw Bell Telephone	08814	C
3000952	Wheat Lands Country Store	11567	C
3000976	Burtis Motors	12327	C
3001073	Hort's Tire Service	15560	C

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3001586	Southwest Carpet, Inc.	26035	C
3001671	Kwik Shop #701	26409	C
3001714	Garden City Coop, Bulk Plant	26615	C
3001761	Kdot, Garden City	26739	C
3001820	Ups, Garden City	27055	C
3001844	Coastal Mart #9748	27146	C
3002090	Texaco, Lee's	28538	C
3002300	Dv Douglass Roofing	29581	C
3002301	Kustom Auto Radio	29583	C
3002404	Garden City Coop, Bulk Plant	40184	C

Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000029	STROH CLEANERS	C102870019	B
7000028	GARDEN CITY PWS #18 (COMBINED W/028-71124)	C102803003	C

Regulated Solid Waste Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
5000391	Smith Sand Co.	0382-S	C

Regulated Solid Waste Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
5000501	City of Garden City	0486-S	C
5000516	Smith Sand Co.	0500-S	C
5000523	City of Garden City	0508-S	C
5000778	Ashton Group Inc.	0753-S	C

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6000919	SUNFLOWER ELECTRIC POWER – GARDEN CITY	I-UA14-PO02	C

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Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

Public Water Supply: **GARDEN CITY, CITY OF**
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Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
Did Not Add Any Site Sources			

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Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

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Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
43	11	119	38	71	41

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

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Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A – Microbiological	B – Inorganic Compounds	B1 – Eutrophication – Phosphorous
B2 – Sedimentation	B* – Nitrates	C – Synthetic Organic Compounds
C* – Pesticides	D – Volatile Organic Compounds	

Potential Contaminants Listing

Public Water Supply: **GARDEN CITY, CITY OF**
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Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7538	Auto Truck Repair Service	Inorganics, VOCs	B
"	"	"	D
7542	Car Wash	Inorganics, VOCs	B
"	"	"	B1
"	"	"	B2
"	"	"	D
211	Cattle Farm	Sanitary, Fertilizers TSS, pesticides, Erosion and sedimentation	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
5082	Construction and Mining Machinery	NA	NA
2047	Dog, Cat, and Other Pet Food Manufacturing	BOD, oil and grease, TSS	A
"	"	"	B
2875	Fertilizers, Mixing Manufacturing	Nitrogen, phosphorous	B
"	"	"	B*

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
5541	Gasoline Service Station	Inorganics, VOCs	B
"	"	"	D
7992	Golf Course	Fertilizers and pesticides	A
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
1611	Highway and Street Construction	Sedimentation	B2
4212	Local Trucking, without Storage	VOCs	D
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	B
"	"	"	D
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	A
"	"	"	B*
3479	Metal Coating and Allied Services Manufacturing	inorganics, VOCs	B
"	"	"	D
6515	Mobile Home Park	Sanitary wastes, Fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B*

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
1542	Nonresidential Construction	Sedimentation	B2
1389	Oil and Gas Field services	Oil, Salt Water	B
"	"	"	C
7384	Photofinishing Laboratory	NA	B
"	"	"	D
3089	Plastics products Manufacturing	inorganics, VOCs	B
"	"	"	D
2452	Prefabricated Wood Buildings Manufacturing	TSS	B
"	"	"	D
3561	Pumps and Pumping Equipment Manufacturing	inorganics, VOCs	B
"	"	"	D
3273	Ready-mix Concrete Plant	Minerals and TSS	B
3585	Refrigeration and Heating Equipment Manufacturing	inorganics, VOCs	B
"	"	"	D
5093	Scrap and Waste Materials	Metals, TSS	B
3993	Signs and Advertising Display Manufacturing	inorganics, VOCs	B
"	"	"	D
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	A
"	"	"	B1

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	B2
"	"	"	B*
"	"	"	C
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	B
"	"	"	D
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	A
"	"	"	B
752	Animal Specialty Services	Sanitary, fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
2759	Commercial Printing NEC	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
2752	Commercial Printing-Lithographic	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
2653	Corrugated and Solid Fiber Boxes	Inorganics, VOCs	B

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
2653	Corrugated and Solid Fiber Boxes	Inorganics, VOCs	D
3523	Farm Machinery and Equipment	inorganics	B
"	"	"	D
4221	Farm Product Warehousing and Storage	TSS, VOCs	B
"	"	"	D
5083	Farm and Garden Machinery	inorganics	B
191	General Farm, Primarily Crop	fertilizers, Pesticides	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
5012	Recreational vehicle sales and repair	Inorganics	B
5561	Recreational vehicle sales and repair	Inorganics	B
4953	Refuse Systems	ALL	A
"	"	"	B
"	"	"	B1

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
4953	Refuse Systems	ALL	B2
"	"	"	B*
"	"	"	C
"	"	"	C*
"	"	"	D
7699	Repair Services, Nec	inorganics	B

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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **647**

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
7542	Car Wash	Inorganics, VOCs	Install and maintain sediment and grease traps where appropriate	40 CFR 442
211	Cattle Farm	Sanitary, Fertilizers TSS, pesticides, Erosion and sedimentation	Proper application of fertilizers and pesticides. Proper cleaning of equipment and disposal of chemicals. Maintain riparian areas along waterways and keep cattle out of these areas. Proper Waste Management and Grazing Management.	KDHE–Livestock Waste Management Section, KAR 28–16, KDA, County Soil Conservation District, NRCS
5082	Construction and Mining Machinery	NA	Discharge to POTW	NA
2047	Dog, Cat, and Other Pet Food Manufacturing	BOD, oil and grease, TSS	Wastewater pretreatment and/or discharge to a POTW	40 CFR 122 and State or federal Storm water pollution prevention regulations
2875	Fertilizers, Mixing Manufacturing	Nitrogen, phosphorous	Minimize contact of product with water. Contain and treat process wastewater Protect product from contact with water.	40 CFR 418 and State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
5541	Gasoline Service Station	Inorganics, VOCs	Maintain area to minimize fuel contamination	NA
7992	Golf Course	Fertilizers and pesticides	Proper application of fertilizers and pesticides. Proper cleaning of equipment and disposal of chemicals.	KDHE, KAR 28-16
1611	Highway and Street Construction	Sedimentation	Erosion and Sediment Control	KAR 28-16, KDHE
4212	Local Trucking, without Storage	VOCs	Discharge to a POTW	State or federal Storm water pollution prevention regulations
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	Wastewater pretreatment and/or discharge to a POTW	40CFR 432 and State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
3479	Metal Coating and Allied Services Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	40 CFR 433 and State or federal Storm water pollution prevention regulations
6515	Mobile Home Park	Sanitary wastes, Fertilizers	Discharge to POTW. Minimize use of lawn chemicals	KAR 28–5
1542	Nonresidential Construction	Sedimentation	Erosion and Sediment Control	KAR 28–16, KDHE
1389	Oil and Gas Field services	Oil, Salt Water	Proper management of production wastes	KAR 28–41, 45, 40 CFR 435
7384	Photofinishing Laboratory	NA	Discharge to POTW. Recycle chemicals	CFR 40 459
3089	Plastics products Manufacturing	inorganics, VOCs	Pre–treat wastewater prior to discharge. Minimize outdoor storage and control storm water runoff.	40 CFR 463 and State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
2452	Prefabricated Wood Buildings Manufacturing	TSS	Discharge of process waters to POTW. Minimize outdoor storage.	State or federal Storm water pollution prevention regulations
3561	Pumps and Pumping Equipment Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
3273	Ready-mix Concrete Plant	Minerals and TSS	Minimize outdoor storage and control storm water runoff.	State or federal Storm water pollution prevention regulations
3585	Refrigeration and Heating Equipment Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
5093	Scrap and Waste Materials	Metals, TSS	Minimize contact with storm water	State or federal Storm water pollution prevention regulations
3993	Signs and Advertising Display Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	40 CFR 459 and State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	Proper cleaning and disposal of household hazardous waste. Proper storage, application, and clean up of pesticides and fertilizers	KAR 28-48, KDHE, KDEM
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	Discharge to POTW. Recycle where appropriate. Properly maintain oil product and waste. Manage paint and solvent wastes properly	NA
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	Discharge to POT	NA
752	Animal Specialty Services	Sanitary, fertilizers	Collect and treat wastes.	NA
2759	Commercial Printing NEC	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
2752	Commercial Printing-Lithographic	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
2653	Corrugated and Solid Fiber Boxes	Inorganics, VOCs	Collect process wastewater and treat prior to discharge as necessary. Minimize outdoor storage	40 CFR 430 and State or federal Storm water pollution prevention regulations
3523	Farm Machinery and Equipment	inorganics	Discharge to POTW	State or federal Storm water pollution prevention regulations
4221	Farm Product Warehousing and Storage	TSS, VOCs	Keep the area clean of grain. Use grease traps.	State or federal Storm water pollution prevention regulations
5083	Farm and Garden Machinery	inorganics	Discharge to POTW	NA
191	General Farm, Primarily Crop	fertilizers, Pesticides	Maintain good erosion control practices and minimize the use of chemicals	NA
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
5012	Recreational vehicle sales and repair	Inorganics	Discharge to a POTW. Store oils and lubricants properly	NA
5561	Recreational vehicle sales and repair	Inorganics	Discharge to a POTW. Store oils and lubricants properly	Discharge to a POTW. Store oils and lubricants properly
4953	Refuse Systems	ALL	Store wastes properly in order to minimize contact with storm water.	Maintain the lagoon or storage vessel properly. Control storm water run on and runoff to minimize contamination of storm water
7699	Repair Services, Nec	inorganics	Discharge to POTW	NA

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **647**
Diversion Id's: **026, 010**
Status: **Accepted**
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Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **647**

Ground Water Multiple Wells Analysis

A – Microbiological **B** – Inorganic Compounds
B* – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is any well under the influence of surface water?	No	0	0	0	0	0	0
2	Do all PWS wells meet KS PWS water well construction standards?	Yes	0	0	0	0	0	0
3	Is any well less than 30 feet deep?	No	0	0	0	0	0	0
4	Is gravel pack within 20 feet of any well surface?	No	0	0	0	0	0	0
5	Does a PWS own or control all the areas around the wells?	No	1	1	1	1	1	1
6	Does Zone B consist entirely of native grass?	No	2	2	2	2	2	2
7	Is there a contaminated well in Zone B?	Yes	1	1	1	1	1	1
8	Is a class V UIC well present?	No	0	0	0	0	0	0
9	Are any commercial, industrial, or urban areas present in Zone B?	Yes	1	1	1	1	1	1
10	Does each industrial/commercial site and urban area have a water quality protection plan in place?	No	1	1	1	1	1	1
11	Are any non-farm home sites present in Zone B?	Yes	1	0	1	0	1	0
12	Do all the non-farm home sites have a water quality protection plan?	No	1	0	1	0	1	0
13	Are any farmsteads present in Zone B?	No	0	0	0	0	0	0
14	Do all farmsteads have a water quality protection plan?	Yes	0	0	0	0	0	0
15	Is there grazing livestock in Zone B?	No	0	0	0	0	0	0
16	Have all livestock producers implemented water quality protection measures?	Yes	0	0	0	0	0	0
17	Is there livestock confinement in Zone B?	No	0	0	0	0	0	0

No.	Question	Response	A	B	B*	C	C*	D
18	Is each confined animal feeding operation registered with KDHE?	Yes	0	0	0	0	0	0
19	Is there corn or grain sorghum production in Zone B?	No	0	0	0	0	0	0
20	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
21	Are any orchards present in Zone B?	No	0	0	0	0	0	0
22	Are orchard nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
23	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	No	0	0	0	0	0	0
24	Is there a railroad or major highway in Zone B or C?	No	0	0	0	0	0	0
25	Is there oil production in Zone B or C?	No	0	0	0	0	0	0
26	Do coarse textured soils predominate Zones A, B and C?	Yes	1	1	1	1	1	1
27	Is an irrigation well located in Zone B or C?	Yes	0	1	1	1	1	1
28	Is a wastewater treatment facility in Zone B or C?	No	0	0	0	0	0	0
29	Is a solid waste landfill in Zone B or C?	Yes	1	1	1	1	1	1
30	Are there unplugged, abandoned water wells present in Zone C?	Yes	2	1	1	1	1	1
31	Are any commercial, industrial, or urban area present in Zone C?	Yes	1	1	1	1	1	1
32	Does each industrial/commercial site and urban area have a water quality protection plan in place?	No	1	1	1	1	1	1
33	Is there livestock confinement in Zone C?	Yes	1	1	1	1	1	0
34	Is each confined livestock facility registered with KDHE?	Yes	0	0	0	0	0	0
35	Do all the livestock producers have water quality protection measures in place?	Yes	0	0	0	0	0	0
36	Are cropland nutrient management plans in place?	No	0	0	1	0	0	0
37	Are cropland pesticide management plans in place?	No	0	0	0	0	1	0
38	Does a perennial stream flow into Zone C?	No	0	0	0	0	0	0
39	Are watershed water quality protection plans in place?	Yes	0	0	0	0	0	0

Public Water Supply: **GARDEN CITY, CITY OF**
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Site Comments:

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **647**

Comments for Unregulated Sites

Potential Contaminant Site No.	Site Comments	Author
215718	Housing only at this site	David Glenn
215780	Houses only at this site	David Glenn
215888	Construction complete	David Glenn
216010	Construction complete	David Glenn
216299	Site is office space and retail stores	David Glenn
216373	Construction complete	David Glenn
216682	No oil or gas field services at this location; housing only	David Glenn
216682	No oil and gas field services at this location; houses only	David Glenn

Comments for Unregulated Sites

Potential Contaminant Site No.	Site Comments	Author
216682	No oil and gas field services at this location; houses only	David Glenn
216682	No oil and gas field services at this location; housing only	David Glenn

Comments for Regulated Confined Animal Feeding Operations Sites

Did Not Receive Any Comments

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

Comments for Regulated Identified Contaminated Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
STROH CLEANERS	7000029	Stroh cleaners does not exist at this location.	David Glenn

Comments for Regulated Solid Waste Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
Smith Sand Co.	5000516	Site is a retirement home and housing	David Glenn

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

Public Water Supply: **GARDEN CITY, CITY OF**
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Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **647**

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Did Not Receive Any Comments			

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **647**
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Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **647**

Comments for Analysis Questions

Analysis Question	Question Comments	Author
Does a PWS own or control all the areas around the wells?	PWS owns the property around the wells, but not 200' radius in some instances.	David Glenn
Is there a contaminated well in Zone B?	The well at 3rd and Johnson has been taken out of service.	David Glenn
Does each industrial/commercial site and urban area have a water quality protection plan in place?	Unknown	David Glenn
Do all the non-farm home sites have a water quality protection plan?	Unknown	David Glenn
Is an irrigation well located in Zone B or C?	Zone C only	David Glenn
Are there unplugged, abandoned water wells present in Zone C?	Unknown	David Glenn
Does each industrial/commercial site and urban area have a water quality protection plan in place?	Unknown	David Glenn
Are cropland nutrient management plans in place?	Unknown	David Glenn
Are cropland pesticide management plans in place?	Unknown	David Glenn

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **648**
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Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: GARDEN CITY, CITY OF
Assessment Area: 648

Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score – SLS	47	49	48	52	45	55
SLS Range	Low	Low	Low	Mid	Low	Mid

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Susceptibility Likelihood Range

SLS Range	
0–50	Low Susceptibility
51–80	Moderate Susceptibility
81–100	High Susceptibility

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **648**
Diversion Id's: **105, 101, 106, 102, 103, 104**
Status: **Accepted**
Submit Date: **2003-01-29 09:39:20**

Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **648**

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
216971	Animal Specialty Services	752	B
216973	Farm and Garden Machinery	5083	B
217124	General Farm, Primarily Crop	191	C
216963	Cattle Farm	211	C
216965	Cattle Farm	211	C
217066	Cattle Farm	211	C
217125	Cattle Farm	211	C
215450	Single-family Housing Construction	1521	C
216947	Single-family Housing Construction	1521	C
217075	Single-family Housing Construction	1521	C
217123	Meat Packing Plant Manufacturing	2011	C
216786	Machinery, Except Electrical Manufacturing	3599	C
217012	Pipeline Terminal	4789	C
216794	Refuse Systems	4953	C
216733	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
215656	Auto Truck Repair Service	7538	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
216790	Auto Truck Repair Service	7538	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
2002921	Reeve Cattle Company, Inc.	A-UAFI-C018	C

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000033	HOLCOMB USDA/CCC SITE	C102870525	C

Regulated Solid Waste Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
5000391	Smith Sand Co.	0382-S	C
5000501	City of Garden City	0486-S	C
5000523	City of Garden City	0508-S	C
5000778	Ashton Group Inc.	0753-S	C

Regulated Waste Water Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

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Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **648**

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000154		115	B
9000671	Chemical Company	2879	B

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Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **648**

Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
10	6	13	4	6	11

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

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Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A – Microbiological **B** – Inorganic Compounds **B1** – Eutrophication – Phosphorous
B2 – Sedimentation **B*** – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

Potential Contaminants Listing

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **648**

Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7538	Auto Truck Repair Service	Inorganics, VOCs	B
"	"	"	D
211	Cattle Farm	Sanitary, Fertilizers TSS, pesticides, Erosion and sedimentation	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	B
"	"	"	D
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	A
"	"	"	B*
4789	Pipeline Terminal	Inorganics, VOCs	B
"	"	"	D
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	A
"	"	"	B1
"	"	"	B2

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	B*
"	"	"	C
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	B
"	"	"	D
752	Animal Specialty Services	Sanitary, fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
5083	Farm and Garden Machinery	inorganics	B
191	General Farm, Primarily Crop	fertilizers, Pesticides	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
4953	Refuse Systems	ALL	A
"	"	"	B
"	"	"	B1
"	"	"	B2

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
4953	Refuse Systems	ALL	B*
"	"	"	C
"	"	"	C*
"	"	"	D

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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **648**

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
211	Cattle Farm	Sanitary, Fertilizers TSS, pesticides, Erosion and sedimentation	Proper application of fertilizers and pesticides. Proper cleaning of equipment and disposal of chemicals. Maintain riparian areas along waterways and keep cattle out of these areas. Proper Waste Management and Grazing Management.	KDHE–Livestock Waste Management Section, KAR 28–16, KDA, County Soil Conservation District, NRCS
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	Wastewater pretreatment and/or discharge to a POTW	40CFR 432 and State or federal Storm water pollution prevention regulations
4789	Pipeline Terminal	Inorganics, VOCs	Maintain secondary containment for fuel storage and fueling areas. Maintain and inspect. Effect repairs promptly	NA
1521	Single–family Housing Construction	Oil, Paint, Pesticides, Fertilizers	Proper cleaning and disposal of household hazardous waste. Proper storage, application, and clean up of pesticides and fertilizers	KAR 28–48, KDHE, KDEM

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	Discharge to POTW. Recycle where appropriate. Properly maintain oil product and waste. Manage paint and solvent wastes properly	NA
752	Animal Specialty Services	Sanitary, fertilizers	Collect and treat wastes.	NA
5083	Farm and Garden Machinery	inorganics	Discharge to POTW	NA
191	General Farm, Primarily Crop	fertilizers, Pesticides	Maintain good erosion control practices and minimize the use of chemicals	NA
4953	Refuse Systems	ALL	Store wastes properly in order to minimize contact with storm water.	Maintain the lagoon or storage vessel properly. Control storm water run on and runoff to minimize contamination of storm water

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Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **648**

Ground Water Multiple Wells Analysis

A – Microbiological **B** – Inorganic Compounds
B* – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is any well under the influence of surface water?	No	0	0	0	0	0	0
2	Do all PWS wells meet KS PWS water well construction standards?	Yes	0	0	0	0	0	0
3	Is any well less than 30 feet deep?	No	0	0	0	0	0	0
4	Is gravel pack within 20 feet of any well surface?	No	0	0	0	0	0	0
5	Does a PWS own or control all the areas around the wells?	Yes	0	0	0	0	0	0
6	Does Zone B consist entirely of native grass?	No	2	2	2	2	2	2
7	Is there a contaminated well in Zone B?	No	0	0	0	0	0	0
8	Is a class V UIC well present?	No	0	0	0	0	0	0
9	Are any commercial, industrial, or urban areas present in Zone B?	Yes	1	1	1	1	1	1
10	Does each industrial/commercial site and urban area have a water quality protection plan in place?	No	1	1	1	1	1	1
11	Are any non-farm home sites present in Zone B?	No	0	0	0	0	0	0
12	Do all the non-farm home sites have a water quality protection plan?	Yes	0	0	0	0	0	0
13	Are any farmsteads present in Zone B?	Yes	1	1	1	1	1	1
14	Do all farmsteads have a water quality protection plan?	No	1	1	1	1	1	1
15	Is there grazing livestock in Zone B?	Yes	1	0	1	0	0	0
16	Have all livestock producers implemented water quality protection measures?	No	1	0	1	0	0	0
17	Is there livestock confinement in Zone B?	No	0	0	0	0	0	0

No.	Question	Response	A	B	B*	C	C*	D
18	Is each confined animal feeding operation registered with KDHE?	Yes	0	0	0	0	0	0
19	Is there corn or grain sorghum production in Zone B?	Yes	0	0	1	0	1	0
20	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	No	0	0	1	0	1	0
21	Are any orchards present in Zone B?	No	0	0	0	0	0	0
22	Are orchard nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
23	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	Yes	1	1	1	0	0	0
24	Is there a railroad or major highway in Zone B or C?	No	0	0	0	0	0	0
25	Is there oil production in Zone B or C?	Yes	0	1	0	1	0	1
26	Do coarse textured soils predominate Zones A, B and C?	Yes	1	1	1	1	1	1
27	Is an irrigation well located in Zone B or C?	Yes	0	1	1	1	1	1
28	Is a wastewater treatment facility in Zone B or C?	No	0	0	0	0	0	0
29	Is a solid waste landfill in Zone B or C?	Yes	1	1	1	1	1	1
30	Are there unplugged, abandoned water wells present in Zone C?	Yes	2	1	1	1	1	1
31	Are any commercial, industrial, or urban area present in Zone C?	Yes	1	1	1	1	1	1
32	Does each industrial/commercial site and urban area have a water quality protection plan in place?	No	1	1	1	1	1	1
33	Is there livestock confinement in Zone C?	No	0	0	0	0	0	0
34	Is each confined livestock facility registered with KDHE?	Yes	0	0	0	0	0	0
35	Do all the livestock producers have water quality protection measures in place?	Yes	0	0	0	0	0	0
36	Are cropland nutrient management plans in place?	No	0	0	1	0	0	0
37	Are cropland pesticide management plans in place?	No	0	0	0	0	1	0
38	Does a perennial stream flow into Zone C?	No	0	0	0	0	0	0
39	Are watershed water quality protection plans in place?	Yes	0	0	0	0	0	0

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **648**
Diversion Id's: **105, 101, 106, 102, 103, 104**
Status: **Accepted**
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Site Comments:

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **648**

Comments for Unregulated Sites

Did Not Receive Any Comments

Comments for Regulated Confined Animal Feeding Operations Sites

Did Not Receive Any Comments

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

Comments for Regulated Identified Contaminated Sites

Did Not Receive Any Comments

Comments for Regulated Solid Waste Sites

Did Not Receive Any Comments

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

Public Water Supply: **GARDEN CITY, CITY OF**
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Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **648**

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Chemical Company	9000671	Not on map; close to municipal well	David Glenn
Unknown	9000154	Aerial map shows active center pivot and irrigation well.	Scott Selee

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Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **648**

Comments for Analysis Questions

Analysis Question	Question Comments	Author
Does each industrial/commercial site and urban area have a water quality protection plan in place?	unknown	David Glenn
Do all farmsteads have a water quality protection plan?	unknown	David Glenn
Have all livestock producers implemented water quality protection measures?	unknown	David Glenn
Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	Unknown	David Glenn
Are there unplugged, abandoned water wells present in Zone C?	Unknown	David Glenn
Does each industrial/commercial site and urban area have a water quality protection plan in place?	Unknown	David Glenn
Are cropland nutrient management plans in place?	Unknown	David Glenn
Are cropland pesticide management plans in place?	Unknown	David Glenn

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **649**
Diversion Id's: **027**
Status: **Accepted**
Submit Date: **2003-01-29 09:42:08**

Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **649**

Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score – SLS	44	45	40	48	42	51
SLS Range	Low	Low	Low	Low	Low	Low

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Susceptibility Likelihood Range

SLS Range	
0–50	Low Susceptibility
51–80	Moderate Susceptibility
81–100	High Susceptibility

Public Water Supply: **GARDEN CITY, CITY OF**
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Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

Public Water Supply: **GARDEN CITY, CITY OF**
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Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
217058	Single-family Housing Construction	1521	B
216907	Construction and Mining Machinery	5082	B
217046	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	B
216898	Repair Services, Nec	7699	B
217057	Repair Services, Nec	7699	B
216630	General Farm, Primarily Crop	191	C
215922	Cattle Farm	211	C
216775	Veterinary Services, Specialties	742	C
216776	Veterinary Services, Specialties	742	C
216713	Animal Specialty Services	752	C
215818	Oil and Gas Field services	1389	C
216682	Oil and Gas Field services	1389	C
215824	Single-family Housing Construction	1521	C
216652	Single-family Housing Construction	1521	C
216730	Single-family Housing Construction	1521	C
216768	Single-family Housing Construction	1521	C
216799	Single-family Housing Construction	1521	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
216800	Single-family Housing Construction	1521	C
216803	Single-family Housing Construction	1521	C
216899	Single-family Housing Construction	1521	C
216944	Single-family Housing Construction	1521	C
217039	Single-family Housing Construction	1521	C
217040	Single-family Housing Construction	1521	C
217070	Single-family Housing Construction	1521	C
216903	Nonresidential Construction	1542	C
216893	Prepared Feeds For Animals and Fowls	2048	C
216923	Animal and Marine Fats and Oils Manufacturing	2077	C
217001	Bottled and Canned Soft Drinks Production	2086	C
217071	Corrugated and Solid Fiber Boxes	2653	C
215935	Commercial Printing-Lithographic	2752	C
215485	Ready-mix Concrete Plant	3273	C
217060	Mineral Wool Manufacturing	3296	C
216586	Machinery, Except Electrical Manufacturing	3599	C
216904	Signs and Advertising Display Manufacturing	3993	C
216631	Local Trucking, without Storage	4212	C
216929	Local Trucking, without Storage	4212	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
216933	Farm Product Warehousing and Storage	4221	C
216935	Farm and Garden Machinery	5083	C
216771	Gasoline Service Station	5541	C
216940	Mobile Home Park	6515	C
217043	Recreational Vehicle Parks and Campsites	7033	C
216817	Photofinishing Laboratory	7384	C
216770	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
216993	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
216641	Auto Truck Repair Service	7538	C
216783	Auto Truck Repair Service	7538	C
216785	Auto Truck Repair Service	7538	C
216797	Auto Truck Repair Service	7538	C
216994	Auto Truck Repair Service	7538	C
216605	Car Wash	7542	C
216988	Repair Services, Nec	7699	C
216922	Golf Course	7992	C
217019	Golf Course	7992	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3000358	Masonry Products	04410	C
3000658	Country Corner	06777	C
3000952	Wheat Lands Country Store	11567	C
3001671	Kwik Shop #701	26409	C
3001761	Kdot, Garden City	26739	C
3002231	Koa, Garden City	29248	C

Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000031	MONFORT-GARDEN CITY FACILITY	C102870096	C

Regulated Solid Waste Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
5000370	Parks Construction Co.	0363-S	B

Regulated Solid Waste Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
5000703	Southwest Medecol, Msc	0682-S	B
5000835	Stericycle, Inc.	0806-S	B
5000379	Farmland Foods, Inc.	0372-S	C
5000516	Smith Sand Co.	0500-S	C

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6000915	MONFORT – GARDEN CITY	I-UA14-NP04	C
6000916	NATIONAL BY-PRODUCTS – GARDEN CITY	I-UA14-NP05	C
6001839	GARDEN CITY MWTP	M-UA14-OO01	C
6001840	GARDEN CITY MWTP	M-UA14-OO01	C
6001841	GARDEN CITY MWTP	M-UA14-OO01	C
6001842	GARDEN CITY MWTP	M-UA14-OO01	C
6001843	GARDEN CITY MWTP	M-UA14-OO01	C
6001844	GARDEN CITY MWTP	M-UA14-OO01	C
6001845	GARDEN CITY MWTP	M-UA14-OO01	C

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Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

Public Water Supply: **GARDEN CITY, CITY OF**
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Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000207		0	B

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Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

Public Water Supply: **GARDEN CITY, CITY OF**
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Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
24	6	33	16	18	21

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

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Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A – Microbiological **B** – Inorganic Compounds **B1** – Eutrophication – Phosphorous
B2 – Sedimentation **B*** – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

Potential Contaminants Listing

Public Water Supply: **GARDEN CITY, CITY OF**
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Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
2077	Animal and Marine Fats and Oils Manufacturing	BOD, oil and grease, TSS	A
"	"	"	B
7538	Auto Truck Repair Service	Inorganics, VOCs	B
"	"	"	D
2086	Bottled and Canned Soft Drinks Production	BOD	A
7542	Car Wash	Inorganics, VOCs	B
"	"	"	B1
"	"	"	B2
"	"	"	D
211	Cattle Farm	Sanitary, Fertilizers TSS, pesticides, Erosion and sedimentation	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
5082	Construction and Mining Machinery	NA	NA
5541	Gasoline Service Station	Inorganics, VOCs	B

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
5541	Gasoline Service Station	Inorganics, VOCs	D
7992	Golf Course	Fertilizers and pesticides	A
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
4212	Local Trucking, without Storage	VOCs	D
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	B
"	"	"	D
3296	Mineral Wool Manufacturing	Metals, minerals and TSS	B
6515	Mobile Home Park	Sanitary wastes, Fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B*
1542	Nonresidential Construction	Sedimentation	B2
1389	Oil and Gas Field services	Oil, Salt Water	B
"	"	"	C
7384	Photofinishing Laboratory	NA	B
"	"	"	D

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
3273	Ready-mix Concrete Plant	Minerals and TSS	B
7033	Recreational Vehicle Parks and Campsites	sanitary, fertilizers, pesticides	A
"	"	"	B
"	"	"	B1
"	"	"	B*
"	"	"	C*
3993	Signs and Advertising Display Manufacturing	inorganics, VOCs	B
"	"	"	D
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	A
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	B
"	"	"	D
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	A
"	"	"	B
752	Animal Specialty Services	Sanitary, fertilizers	A
"	"	"	B

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
752	Animal Specialty Services	Sanitary, fertilizers	B1
"	"	"	B2
"	"	"	B*
2752	Commercial Printing–Lithographic	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
2653	Corrugated and Solid Fiber Boxes	Inorganics, VOCs	B
"	"	"	D
4221	Farm Product Warehousing and Storage	TSS, VOCs	B
"	"	"	D
5083	Farm and Garden Machinery	inorganics	B
191	General Farm, Primarily Crop	fertilizers, Pesticides	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
2048	Prepared Feeds For Animals and Fowls	Sanitary, Nitrates, phosphorous and pesticides	A
"	"	"	B
"	"	"	B1

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
2048	Prepared Feeds For Animals and Fowls	Sanitary, Nitrates, phosphorous and pesticides	B2
"	"	"	B*
"	"	"	C*
7699	Repair Services, Nec	inorganics	B

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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **649**

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
2077	Animal and Marine Fats and Oils Manufacturing	BOD, oil and grease, TSS	Wastewater pretreatment and/or discharge to a POTW. Grounds maintenance and cleanup. Fat traps on sewer lines.	40 CFR 122 and State or federal Storm water pollution prevention regulations
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
2086	Bottled and Canned Soft Drinks Production	BOD	Wastewater pretreatment and/or discharge to a POTW.	40 CFR 407 and State or federal Storm water pollution prevention regulations
7542	Car Wash	Inorganics, VOCs	Install and maintain sediment and grease traps where appropriate	40 CFR 442
211	Cattle Farm	Sanitary, Fertilizers TSS, pesticides, Erosion and sedimentation	Proper application of fertilizers and pesticides. Proper cleaning of equipment and disposal of chemicals. Maintain riparian areas along waterways and keep cattle out of these areas. Proper Waste Management and Grazing Management.	KDHE–Livestock Waste Management Section, KAR 28–16, KDA, County Soil Conservation District, NRCS
5082	Construction and Mining Machinery	NA	Discharge to POTW	NA

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
5541	Gasoline Service Station	Inorganics, VOCs	Maintain area to minimize fuel contamination	NA
7992	Golf Course	Fertilizers and pesticides	Proper application of fertilizers and pesticides. Proper cleaning of equipment and disposal of chemicals.	KDHE, KAR 28-16
4212	Local Trucking, without Storage	VOCs	Discharge to a POTW	State or federal Storm water pollution prevention regulations
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
3296	Mineral Wool Manufacturing	Metals, minerals and TSS	Minimize outdoor storage and control storm water runoff. Pre-treat process wastewater prior to discharge to POTW	40 CFR 436 and State or federal Storm water pollution prevention regulations
6515	Mobile Home Park	Sanitary wastes, Fertilizers	Discharge to POTW. Minimize use of lawn chemicals	KAR 28-5

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
1542	Nonresidential Construction	Sedimentation	Erosion and Sediment Control	KAR 28–16, KDHE
1389	Oil and Gas Field services	Oil, Salt Water	Proper management of production wastes	KAR 28–41, 45, 40 CFR 435
7384	Photofinishing Laboratory	NA	Discharge to POTW. Recycle chemicals	CFR 40 459
3273	Ready–mix Concrete Plant	Minerals and TSS	Minimize outdoor storage and control storm water runoff.	State or federal Storm water pollution prevention regulations
7033	Recreational Vehicle Parks and Campsites	sanitary, fertilizers, pesticides	Discharge to POTW. Minimize use of lawn chemicals	NA
3993	Signs and Advertising Display Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	40 CFR 459 and State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	Proper cleaning and disposal of household hazardous waste. Proper storage, application, and clean up of pesticides and fertilizers	KAR 28–48, KDHE, KDEM
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	Discharge to POTW. Recycle where appropriate. Properly maintain oil product and waste. Manage paint and solvent wastes properly	NA
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	Discharge to POT	NA
752	Animal Specialty Services	Sanitary, fertilizers	Collect and treat wastes.	NA
2752	Commercial Printing–Lithographic	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
2653	Corrugated and Solid Fiber Boxes	Inorganics, VOCs	Collect process wastewater and treat prior to discharge as necessary. Minimize outdoor storage	40 CFR 430 and State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
4221	Farm Product Warehousing and Storage	TSS, VOCs	Keep the area clean of grain. Use grease traps.	State or federal Storm water pollution prevention regulations
5083	Farm and Garden Machinery	inorganics	Discharge to POTW	NA
191	General Farm, Primarily Crop	fertilizers, Pesticides	Maintain good erosion control practices and minimize the use of chemicals	NA
2048	Prepared Feeds For Animals and Fowls	Sanitary, Nitrates, phosphorous and pesticides	Maintain animal feeding areas and feed storage areas to minimize contact with storm water. Collect and treat process wastes.	40 CFR 412 and State or federal Storm water pollution prevention regulations
7699	Repair Services, Nec	inorganics	Discharge to POTW	NA

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **649**
Diversion Id's: **027**
Status: **Accepted**
Submit Date: **2003-01-29 09:42:08**

Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **649**

Ground Water Single Well Analysis

A – Microbiological **B** – Inorganic Compounds
B* – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is the well under the influence of surface water?	No	0	0	0	0	0	0
2	Does the well meet KS water well construction standards?	Yes	0	0	0	0	0	0
3	Is the depth of the well less than 30 feet?	No	0	0	0	0	0	0
4	Are there unplugged, abandoned water wells present in Zone A?	No	0	0	0	0	0	0
5	Is there gravel pack within 20 feet of the surface?	No	0	0	0	0	0	0
6	Does a PWS own or control Zone A?	No	1	1	1	1	1	1
7	Does Zone A consist entirely of native grass?	No	1	1	1	1	1	1
8	Is there a contaminated well in the Zone A?	No	0	0	0	0	0	0
9	Is a class V UIC well present?	No	0	0	0	0	0	0
10	Are any commercial, industrial, or urban areas present in Zone B?	Yes	1	1	1	1	1	1
11	Does each industrial/commercial site and urban area have a water quality protection plan in place?	No	1	1	1	1	1	1
12	Are any non-farm home sites present in Zone B?	Yes	1	0	1	0	1	0
13	Do all the non-farm home sites have a water quality protection plan?	No	1	0	1	0	1	0
14	Are any farmsteads present in Zone B?	No	0	0	0	0	0	0
15	Do all farmsteads have a water quality protection plan?	Yes	0	0	0	0	0	0
16	Does Zone B consist entirely of native grass?	No	1	1	1	1	1	1
17	Is there grazing livestock in Zone B?	No	0	0	0	0	0	0

No.	Question	Response	A	B	B*	C	C*	D
18	Do all the livestock producers have water quality protection measures in place?	Yes	0	0	0	0	0	0
19	Is there livestock confinement in Zone B?	No	0	0	0	0	0	0
20	Is each confined animal feeding operation registered with KDHE?	Yes	0	0	0	0	0	0
21	Is there corn or grain sorghum production in Zone B?	No	0	0	0	0	0	0
22	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
23	Are any orchards present in Zone B?	No	0	0	0	0	0	0
24	Are orchard nutrient and pesticide plans in use for each site?	Yes	0	0	0	0	0	0
25	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	Yes	1	1	1	0	0	0
26	Is there a railroad or major highway in Zone B or C?	No	0	0	0	0	0	0
27	Is there oil production in Zone B or C?	Yes	0	1	0	1	0	1
28	Do coarse textured soils predominate Zones A, B and C?	Yes	1	1	1	1	1	1
29	Is an irrigation well located in Zone B or C?	Yes	0	1	1	1	1	1
30	Is a wastewater treatment facility in Zone B or C?	Yes	1	1	1	1	1	1
31	Is a solid waste landfill in Zone B or C?	Yes	1	1	1	1	1	1
32	Are there unplugged, abandoned water wells present in Zone B or C?	Yes	1	0	0	0	0	0
33	Are any commercial, industrial, or urban areas present in Zone C?	Yes	1	1	1	1	1	1
34	Are water quality protection plans in use for each site/area?	No	1	1	1	1	1	1
35	Is there livestock confinement in Zone C?	No	0	0	0	0	0	0
36	Is each confined livestock facility registered with KDHE?	Yes	0	0	0	0	0	0
37	Do all the livestock producers have water quality protection measures in place?	Yes	0	0	0	0	0	0
38	Are cropland nutrient management plans in place?	No	0	0	1	0	0	0
39	Are cropland pesticide management plans in place?	No	0	0	0	0	1	0
40	Does a perennial stream flow into Zone C?	No	0	0	0	0	0	0
41	Are watershed water quality protection plans in place?	Yes	0	0	0	0	0	0

Public Water Supply: **GARDEN CITY, CITY OF**
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Site Comments:

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **649**

Comments for Unregulated Sites

Potential Contaminant Site No.	Site Comments	Author
216682	No oil or gas field services at this location; housing only	David Glenn
216682	No oil and gas field services at this location; housing only	David Glenn
216682	No oil and gas field services at this location; houses only	David Glenn
216682	No oil and gas field services at this location; houses only	David Glenn

Comments for Regulated Confined Animal Feeding Operations Sites

Did Not Receive Any Comments

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

Comments for Regulated Identified Contaminated Sites

Did Not Receive Any Comments

Comments for Regulated Solid Waste Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
Smith Sand Co.	5000516	Site is a retirement home and housing	David Glenn

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

Public Water Supply: **GARDEN CITY, CITY OF**
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Diversion Id's: **027**
Status: **Accepted**
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Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **649**

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Unknown	9000207	RV park is PWS the wellsite is this one I added. The well site that is on map as the PWS does not belong to him.	Scott Selee

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **649**
Diversion Id's: **027**
Status: **Accepted**
Submit Date: **2003-01-29 09:42:08**

Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **649**

Comments for Analysis Questions

Analysis Question	Question Comments	Author
Does each industrial/commercial site and urban area have a water quality protection plan in place?	Unknown	David Glenn
Do all the non-farm home sites have a water quality protection plan?	Unknown	David Glenn
Are there unplugged, abandoned water wells present in Zone B or C?	Unknown	David Glenn
Are water quality protection plans in use for each site/area?	Unknown	David Glenn
Are cropland nutrient management plans in place?	Unknown	David Glenn
Are cropland pesticide management plans in place?	Unknown	David Glenn

Public Water Supply: **GARDEN CITY, CITY OF**
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Status: **Accepted**
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Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: GARDEN CITY, CITY OF
Assessment Area: 650

Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score – SLS	16	18	16	20	15	21
SLS Range	Low	Low	Low	Low	Low	Low

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Susceptibility Likelihood Range

SLS Range	
0–50	Low Susceptibility
51–80	Moderate Susceptibility
81–100	High Susceptibility

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **650**
Diversion Id's: **007**
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Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **650**

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
216971	Animal Specialty Services	752	C
216973	Farm and Garden Machinery	5083	C
215656	Auto Truck Repair Service	7538	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Identified Contaminated Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Solid Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Waste Water Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **650**
Diversion Id's: **007**
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Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

Public Water Supply: **GARDEN CITY, CITY OF**
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Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000154		115	B
9000671	Chemical Company	2879	B

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Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **650**

Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
1	0	3	0	1	1

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Public Water Supply: **GARDEN CITY, CITY OF**
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Diversion Id's: **007**
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Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A – Microbiological **B** – Inorganic Compounds **B1** – Eutrophication – Phosphorous
B2 – Sedimentation **B*** – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

Potential Contaminants Listing

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **650**

Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7538	Auto Truck Repair Service	Inorganics, VOCs	B
"	"	"	D
752	Animal Specialty Services	Sanitary, fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
5083	Farm and Garden Machinery	inorganics	B

Public Water Supply: **GARDEN CITY, CITY OF**
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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **650**

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
752	Animal Specialty Services	Sanitary, fertilizers	Collect and treat wastes.	NA
5083	Farm and Garden Machinery	inorganics	Discharge to POTW	NA

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **650**
Diversion Id's: **007**
Status: **Accepted**
Submit Date: **2003-01-29 09:44:09**

Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **650**

Ground Water Single Well Analysis

A – Microbiological **B** – Inorganic Compounds
B* – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is the well under the influence of surface water?	No	0	0	0	0	0	0
2	Does the well meet KS water well construction standards?	Yes	0	0	0	0	0	0
3	Is the depth of the well less than 30 feet?	No	0	0	0	0	0	0
4	Are there unplugged, abandoned water wells present in Zone A?	No	0	0	0	0	0	0
5	Is there gravel pack within 20 feet of the surface?	No	0	0	0	0	0	0
6	Does a PWS own or control Zone A?	Yes	0	0	0	0	0	0
7	Does Zone A consist entirely of native grass?	Yes	0	0	0	0	0	0
8	Is there a contaminated well in the Zone A?	No	0	0	0	0	0	0
9	Is a class V UIC well present?	No	0	0	0	0	0	0
10	Are any commercial, industrial, or urban areas present in Zone B?	No	0	0	0	0	0	0
11	Does each industrial/commercial site and urban area have a water quality protection plan in place?	Yes	0	0	0	0	0	0
12	Are any non-farm home sites present in Zone B?	No	0	0	0	0	0	0
13	Do all the non-farm home sites have a water quality protection plan?	Yes	0	0	0	0	0	0
14	Are any farmsteads present in Zone B?	No	0	0	0	0	0	0
15	Do all farmsteads have a water quality protection plan?	Yes	0	0	0	0	0	0
16	Does Zone B consist entirely of native grass?	Yes	0	0	0	0	0	0
17	Is there grazing livestock in Zone B?	Yes	1	0	1	0	0	0

No.	Question	Response	A	B	B*	C	C*	D
18	Do all the livestock producers have water quality protection measures in place?	Yes	0	0	0	0	0	0
19	Is there livestock confinement in Zone B?	No	0	0	0	0	0	0
20	Is each confined animal feeding operation registered with KDHE?	Yes	0	0	0	0	0	0
21	Is there corn or grain sorghum production in Zone B?	No	0	0	0	0	0	0
22	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
23	Are any orchards present in Zone B?	No	0	0	0	0	0	0
24	Are orchard nutrient and pesticide plans in use for each site?	Yes	0	0	0	0	0	0
25	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	No	0	0	0	0	0	0
26	Is there a railroad or major highway in Zone B or C?	No	0	0	0	0	0	0
27	Is there oil production in Zone B or C?	Yes	0	1	0	1	0	1
28	Do coarse textured soils predominate Zones A, B and C?	Yes	1	1	1	1	1	1
29	Is an irrigation well located in Zone B or C?	Yes	0	1	1	1	1	1
30	Is a wastewater treatment facility in Zone B or C?	No	0	0	0	0	0	0
31	Is a solid waste landfill in Zone B or C?	No	0	0	0	0	0	0
32	Are there unplugged, abandoned water wells present in Zone B or C?	Yes	1	0	0	0	0	0
33	Are any commercial, industrial, or urban areas present in Zone C?	Yes	1	1	1	1	1	1
34	Are water quality protection plans in use for each site/area?	No	1	1	1	1	1	1
35	Is there livestock confinement in Zone C?	No	0	0	0	0	0	0
36	Is each confined livestock facility registered with KDHE?	Yes	0	0	0	0	0	0
37	Do all the livestock producers have water quality protection measures in place?	Yes	0	0	0	0	0	0
38	Are cropland nutrient management plans in place?	No	0	0	1	0	0	0
39	Are cropland pesticide management plans in place?	No	0	0	0	0	1	0
40	Does a perennial stream flow into Zone C?	No	0	0	0	0	0	0
41	Are watershed water quality protection plans in place?	Yes	0	0	0	0	0	0

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **650**
Diversion Id's: **007**
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Site Comments:

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This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **650**

Comments for Unregulated Sites

Did Not Receive Any Comments

Comments for Regulated Confined Animal Feeding Operations Sites

Did Not Receive Any Comments

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

Comments for Regulated Identified Contaminated Sites

Did Not Receive Any Comments

Comments for Regulated Solid Waste Sites

Did Not Receive Any Comments

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

Public Water Supply: **GARDEN CITY, CITY OF**
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Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **650**

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Chemical Company	9000671	Not on map; close to municipal well	David Glenn
Unknown	9000154	Aerial map shows active center pivot and irrigation well.	Scott Selee

Public Water Supply: **GARDEN CITY, CITY OF**
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Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

Public Water Supply: **GARDEN CITY, CITY OF**
Assessment Area: **650**

Comments for Analysis Questions

Analysis Question	Question Comments	Author
Are there unplugged, abandoned water wells present in Zone B or C?	Unknown	David Glenn
Are water quality protection plans in use for each site/area?	Unknown	David Glenn
Are cropland nutrient management plans in place?	Unknown	David Glenn
Are cropland pesticide management plans in place?	Unknown	David Glenn